

## Abstract

Color measuring systems and methods such as for determining the color or other characteristics of teeth are disclosed. Perimeter receiver fiber optics are spaced apart from a central source fiber optic and receive light reflected from the surface of the object/tooth being measured. Light from the perimeter fiber optics pass to a variety of filters. The system utilizes the perimeter receiver fiber optics to determine information regarding the height and angle of the probe with respect to the object/tooth being measured. Under processor control, the color measurement may be made at a predetermined height and angle. Various color spectral photometer arrangements are disclosed. Translucency, fluorescence and/or surface texture data also may be obtained. Audio feedback may be provided to guide operator use of the system. The probe may have a removable or shielded tip for contamination prevention. A method of producing dental prostheses based on measured data also is disclosed. Measured data also may be stored and/or organized as part of a patient data base.

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